

1 **WHAT IS CLAIMED IS:**

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3 1. A method for immunizing an animal against heterologous HIV-1 comprising
4 administering to said animal an immunogen comprising at least one modified
5 HIV-1 envelope protein or fragment thereof, or DNA or virus encoding said at
6 least one modified HIV-1 envelope protein or fragment thereof, or a
7 combination thereof, said modified envelope protein or fragment thereof
8 having a V2 region deletion, wherein said animal exhibits immunity to at least
9 one HIV-1 strain other than that of said immunogen.

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11 2. The method of claim 1 wherein said immunity comprises a humoral response.

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13 3. The method of claim 1 wherein said immunogen comprises a modified HIV-1
14 envelope protein from a clade-B HIV-1 strain.

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16 4. The method of claim 3 wherein said HIV-strain is SF162.

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18 5. The method of claim 4 wherein said modified HIV-1 envelope protein is SEQ
19 ID No:2 or SEQ ID No:4.

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21 6. The method of claim 4 wherein said DNA encoding said at least one modified
22 HIV-1 envelope protein is SEQ ID No:1 or SEQ ID No:3.

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24 7. The method of claim 2 wherein said humoral response comprises neutralizing
25 antibodies.

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Rule 1.26
CODE OF PRACTICE

- 1 9. The method of claim 2 wherein said humoral response comprises protective
2 antibodies.
- 3 10. The method of claim 1 wherein said animal is a human.
- 4 11. A method for eliciting a heterologous immune response to HIV-1 in an animal
5 comprising immunizing said animal with an immunogen comprising at least
6 one modified HIV-1 envelope protein or fragment thereof, or DNA or virus
7 encoding said at least one modified HIV-1 envelope protein or fragment
8 thereof, or a combination thereof, said modified envelope protein or fragment
9 thereof having a V2 region deletion, wherein said animal exhibits a an
10 envelope-specific immune response to at least one HIV-1 strain other than that
11 of said immunogen.
- 12 12. The method of claim 9 wherein said envelope-specific immune response
13 comprises a humoral response.
- 14 13. The method of claim 9 wherein said immunogen comprises a modified HIV-1
15 envelope protein from a clade-B HIV-1 strain.
- 16 14. The method of claim 11 wherein said HIV-strain is SF162.
- 17 15. The method of claim 12 wherein said modified HIV-1 envelope protein is SEQ
18 ID No:2 or SEQ ID No:4.
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- 1 22. The pharmaceutical composition of claim 20 wherein said modified HIV-1
2 envelope protein is SEQ ID No:2 or SEQ ID No:4.
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- 4 23. The pharmaceutical composition of claim 20 wherein said DNA encoding said
5 at least one modified HIV-1 envelope protein is SEQ ID No:1 or SEQ ID No:3.
- 6 24.
- 7 25. A method for assessing whether a compound is capable of generating
8 protective antibodies in an animal against at least one heterologous strain of
9 HIV-1, said animal capable of developing protective antibodies against wild-
10 type HIV-1, said method comprising the steps of immunizing said animal with
11 said compound, depleting said animal of its CD8+ T-lymphocytes, and
12 assessing the presence of protective antibodies in the said animal to at least one
13 heterologous strain of HIV-1.
- 14 26.
- 15 27. The method of claim 23 wherein said depleting is carried out by administering
16 to said animal anti-CD8 monoclonal antibodies.
- 17 28.
- 18 29. The method of claim 23 wherein said compound is an HIV-derived polypeptide
19 or fragment thereof or a DNA or virus encoding said peptide or fragment
20 thereof.
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- 22 30. The method of claim 23 wherein said immunizing is carried out with a DNA
23 vaccine, a protein, or a combination thereof.
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- 25 31. The method of claim 23 wherein said neutralizing antibodies are protective
26 antibodies.